Grassland Curing Guide



A guide to how grasses cure in the Midwest

Please report each Monday and Thursday around 9 AM from March 1st through May 30th and September 1st through November 15th (dates may vary) or anytime you observe that the conditions have significantly changed. Do not take into account any corn or soybeans, as crop information is provided through the USDA.

National Weather Service Johnston, IA

9607 NW Beaver Drive - 50131





The Grassland Curing Guide

This booklet will assist you in estimating the level of grassland (primarily ditches and natural areas) curing for the purpose of using that information to assess and predict fire danger and fire behavior. Visual estimation using the Grassland Curing Guide is a useful tool for assessing curing.

The Guide is used to help identify grass fuel moisture conditions which assist in fire prevention and suppression activities. Estimates of curing status aid the:

- Assessment of the onset of a fire season relative to previous years
- Implementation of fire restrictions
- Input into decision making for fuel reduction burning
- Estimation of fire danger
- Calculations of fire behavior and fire spread
- Deployment of fire fighting resources
- Declaration of burn bans

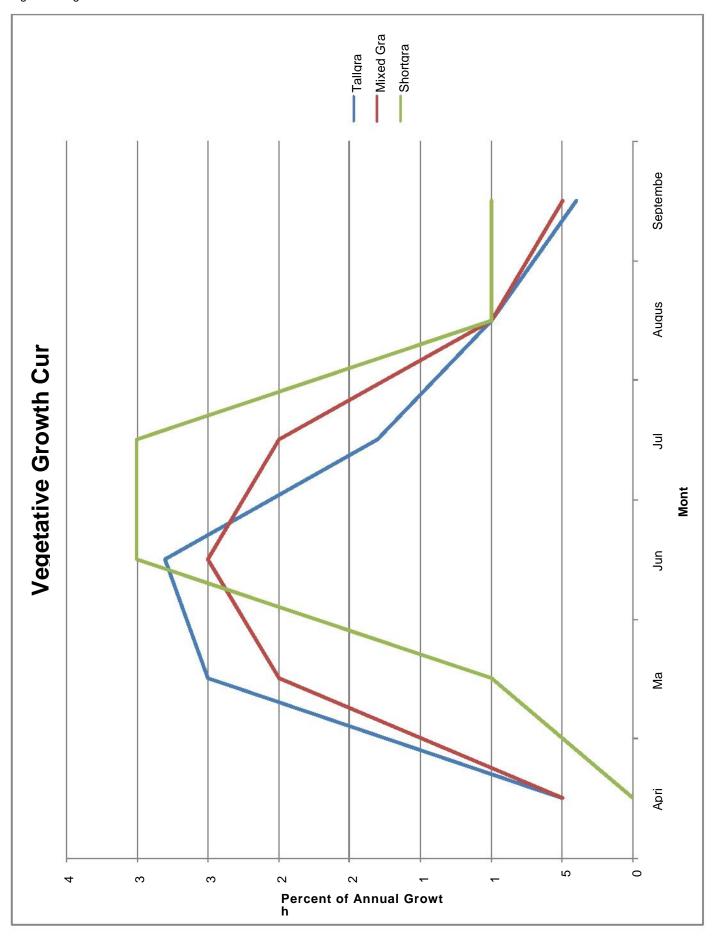
The Curing Process

Most crop and pasture species develop through a life cycle in which the plant annually dies or becomes dormant and dries out, thereby creating the potential for the uncontrolled spread of fire. This annual drying process is termed curing.

During spring, native species (e.g., in ditches and natural areas) are cured from the prior growing season, then begin a period of initial growth known as green-up. Growth continues through the summer and is normally completed in the fall, depending on seasonal variables such as rain and temperature. As the period of growth is completed, plants lose their ability to draw moisture from the soil and consequently begin to cure. Thus during the late summer and fall, plants lose much of their moisture and become cured.

A chart of the percentage of overall growth during the growing season in the central United States is shown in Figure 1. For example, the total growth of any plant during a growing season is 100%. Broken down by month, the greatest percentage of growth for tallgrass prairie usually occurs in June (33%), while the greatest growth for shortgrass occurs during June through July (35%). Growth slows markedly by late summer.

Figure 1: Vegetative Growth Curves for Grasses in the Plains



How to use this Guide

The following photos are a guide only, and measurements made based on color alone are not adequate. Investigation of the physiological characteristics of the grass sward (the descriptions are located beside each photo) is also required.

- It is recommended that observers study the ditches and natural areas at close quarters and at a number of different sites before determination of the state of curing, as viewing only from the roadside or fence-line may lead to inaccurate estimates.
- Determine the overall color and check for seed head development. Match these
 with the appropriate description in the guide and select the 'percentage cured'
 figure.
- Ensure that the selected figure is appropriate to other native species within the area by observing a number of other locations.
- The 'percentage cured' may now be reported to the NWS. This information along with the weather forecast will be used to estimate the fire danger and fire behavior.

% Cured	Color	Physiological Change
0	Green	From the beginning of growth to commencement of seed head development
10	Green	Seed heads formed and flowering
20	Yellowish-Green	Seed heads maturing and seed dropping
30	Yellowish-Green	Most seed heads mature and seed dropping
40	Yellow-Green	Most seed heads mature and seed dropping
50-60	Straw—odd patch of green and greenish- yellow	Up to 1/2 of all stems have dropped their seed, some paddocks will be fully cured, others may be quite green
70-80	Straw—very little green showing anywhere	Most seed heads have dropped their seed, lower third of stalk may be green
90	Straw—odd green gully	Essentially all seed has dropped, odd individual stalk may be green
100	Bleached	All stalks fully cured, seed heads and stalks break easily

Important Notes

- From the time seed heads are fully developed, it will take at least six weeks for grasses to become fully cured.
- Late rains delay the maturing process until the onset of hot weather conditions, when curing will proceed rapidly. Lack of spring rains and an early commencement to the summer will cause curing to occur early but less rapidly.
- Curing is more patchy with increasing species number and variable topography.
- Rainfall before 60% cured will prolong grass life and slow curing, while rainfall after 60% cured will not further delay the curing of adult grass.
- Above 80% cured, fuel moisture content begins to be significantly influenced by environmental factors such as humidity and temperature.
- The long-term rainfall and temperature patterns and the growth habits of the individual grass species also influence the progression of curing.

When and How To Report Curing Values

March 1 through May 15th: Report each – Monday and Thursday around 9 AM (and any time you observe that conditions have significantly changed)

Sep. 1 through November 15th: Report each Monday and Thursday around 9 AM (and any time you observe that conditions have significantly changed)

During other periods of dryness such as extended drought, we may call and ask for reports.

Please phone your observations to: National Weather Service, Johnston, IA

> (800) SKYWARN (800) 759-9276

If you have any questions, please contact Frank Boksa at Frank.Boksa@noaa.gov

Thank you for your participation in this process. Your participation is critical to the accuracy and availability of fire danger information.

Special thanks to Mark Garvey at the Country Fire Authority in Australia and Mary-Beth Schreck of the NWS office in Wichita, KS for providing much of the information in this guide, and to Gary Cramer at the Sedgwick County Extension Office and Janet Spurgeon of the National Weather Service in Wichita for providing the photographs used in this guide.

0% Cured



Color Green



Seed Development

From the beginning of growth to the commencement of seed development.

10-20% Cured



Color

Yellowish-Green to Green



Seed Development

10%: Seed heads formed and flowering.

20%: Seed heads maturing and opening from top.

30-40% Cured



Color Yellow-Green



Seed Development

Most seed heads mature and seed dropping.

50-60% Cured



Color

Straw—Odd patch of green or yellowish-green



Seed Development

Approximately 1/2 of all stems have dropped their seed.

Note: Some fields will be fully cured, others may be fairly green.

70-80% Cured



Color

Straw, very little green showing anywhere, some greenness still evident in lower third of stalks. Many stalks fully cured.



Seed Development

Most seed heads have dropped their seed.

90% Cured



Color Straw - Odd green gully



Seed Development

Essentially all seed has dropped, odd individual stalk may be green.

100% Cured



Color Bleached



Seed Development

All stalks fully cured, seedheads and stalks starting to break easily.